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FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

JUL 17 1992

Federal Communications Commission
Office of the Secretary

In the Matter of

Policies and Rules for
Licensing Fallow 800 MHz
Specialized Mobile Radio
Spectrum Through a Competitive
Bidding Processing

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Reference No. RM-7985

ORIGINAL
FILE

To: The Commission

COMMENTS
OF
NATIONAL ASSOCIATION OF BUSINESS
AND EDUCATIONAL RADIO, INC.

Respectfully submitted,

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SUMMARY

In this proceeding, Fleet Call has petitioned the Commission to assign blocks of 42 to 105 800 MHz SMR pool frequencies in 180 Metropolitan Statistical Areas 9 ("MSAs") as "Innovator Blocks" to be auctioned off to the highest bidder for implementation of an advanced digital SMR system. The system would provide seamless coverage compatible with similar systems in adjacent large urban areas.

In general, NABER supports the adoption of a form of the innovator block concept and recognizes that the ability to offer wide-area service to customers is necessary in converting 800 MHz spectrum in urban areas to digital or other highly efficient technologies. However, NABER is concerned that the innovator block proposal must be implemented in a manner that will not disrupt the orderly transition to spectrum efficient technologies by operators in the urban areas adjacent to the innovator MSA's.

NABER recommends that the Commission allocate a maximum of 42 channels to the innovator in order to insure that spectrum remains available to other users. This will enable the innovator to implement a frequency reuse pattern sufficient to cover the market and have enough capacity for reasonable market penetration.

Further, NABER believes that frequencies within Waiting List Areas are not suitable for innovator blocks and should not be included in the proposal. A review of the availability of spectrum in certain MSA's listed by Fleet Call reveals that in the

approximately 33 MSA's which are within Waiting List Areas, the spectrum cited by Fleet Call as available was primarily only available on a short space basis. NABER is concerned that the assignment of innovator block frequencies in Waiting List Areas will hinder the conversion of already established SMR systems to new technologies and therefore NABER recommends that the Commission limit the innovator MSA's to areas outside the 800 MHz Waiting List Areas.

NABER's task force also reviewed 23 MSA's which are immediately adjacent to Waiting List Areas and are included in Fleet Call's Petition. NABER's research revealed that the number of SMR pool channels which will be suitable for an innovator block was substantially smaller than the number of channels which Fleet Call indicated were available in its Petition. In such areas, the lack of clear channels would prohibit the introduction of innovator systems.

NABER is concerned as to whether innovator blocks could be implemented in areas adjacent to urban areas. NABER recommends that the Commission make available 42 general category frequencies for an innovator block as general category frequencies are generally more abundant and clear on a wide-area basis. The use of general category channels for innovator blocks, rather than SMR pool channels, limits the ability for speculation by non-innovators and results in continued availability of channels for

large, individual user systems. NABER's proposal sets forth specific examples reflecting that the use of general category frequencies for innovator blocks does not have a significant impact on the number of frequencies available for user systems.

NABER is opposed to any freeze as proposed by Fleet Call, which would adversely impact existing SMR operators who need additional channels or who have established business plans to expand and build-out wide-area digital systems. NABER is also opposed to the auctioning of spectrum previously allocated to the private radio services. The implementation of certain assignment mechanisms similar to those used for the 220 MHz commercial nationwide frequencies will obviate the need for the auctioning of spectrum.

NABER recognizes that the Commission should require the innovator to employ a more spectrum efficient technology. NABER believes that equipment/technology and compatibility decisions are best left to the market place and therefore the Commission should only mandate a technology more efficient than that currently in use and should not require the innovator to employ a digital reuse technology.

Further, the Commission should carefully consider applications for construction and loading waivers from applicants which are willing to expend the considerable finances necessary to convert their systems to higher technology use, particularly where existing

operators have constructed wide-area systems which serve a significant customer base. Finally, NABER recommends that the Commission utilize this pleading to amend the 40 mile rule (§90.627(b)) from a loading rule to a construction rule. In effect, a licensee would be prohibited from acquiring a license for a trunked SMR system when it already has a license for a trunked SMR system within 40 miles which is not constructed. This rule would prevent most spectrum hoarding and would permit operators of wide-area systems to convert their systems to a higher technology system.

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To: The Commission

**COMMENTS
OF
NATIONAL ASSOCIATION OF BUSINESS
AND EDUCATIONAL RADIO, INC.**

The National Association of Business and Educational Radio, Inc. ("NABER"), pursuant to Section 1.401 of the Commission's Rules, 47 C.F.R. Section 1.401, hereby respectfully submits its Comments in response to the Petition for Rulemaking filed by Fleet Call, Inc. ("Fleet Call") in the above-captioned proceeding.¹

I. BACKGROUND

NABER is a national, non-profit, trade association headquartered in Alexandria, Virginia, that represents the interests of manufacturers, vendors and service providers as well as large and small businesses that use land mobile radio communications as an important adjunct to the operation of their businesses. NABER has five membership sections representing Users, Private Carrier Paging licensees, Radio Dealers, Technicians and Specialized Mobile Radio operators. NABER comprises over 6,000 of

¹Report No. 1889, released May 11, 1992.

these businesses and service providers holding thousands of licenses in the private land mobile services.

For the past 19 years, NABER has been the recognized frequency coordinator in the 450-470 MHz and 470-512 MHz bands for the Business Radio Service. NABER is also the Commission's recognized frequency coordinator for the 800 MHz and 900 MHz Business Pools, 800 MHz "old" conventional channels for Business eligibles and conventional SMR Systems, and for the 929 MHz paging frequencies. In its Report and Order in PR Docket No. 83-737, the Commission designated NABER as the frequency coordinator for all Business Radio Service frequencies below 450 MHz and, in a joint effort with the International Municipal Signal Association ("IMSA") and the International Association of Fire Chiefs ("IAFC"), the Special Emergency Radio Service frequencies.

In this proceeding, Fleet Call has requested that the Commission assign blocks of 42 to 105 800 MHz SMR Pool frequencies in 180 Metropolitan Statistical Areas ("MSAs") (as well as Rural Statistical Areas ["RSAs"]) as "Innovator Blocks". The blocks would be auctioned off to the highest bidder for implementation of a high capacity digital SMR System to provide seamless coverage compatible with similar systems in adjacent large urban areas.

It is Fleet Call's belief that adoption of the Innovator Block proposal is necessary to encourage the implementation of wide-area, regional and nationwide digital technology in the SMR Service.² The 42 to 105 channel block is required in order to

²Petition at i.

attract the substantial investment necessary to construct an advanced digital SMR system.³ Fleet Call's proposal would allow the system to be constructed over a five year period and would be required to cover 75 percent of either the population or the geographic area of the MSA (or RSA).⁴

In response to Fleet Call's Petition, NABER's SMR Council formed a Task Force to review the Petition. The Task Force consisted of large and small SMR operators from around the country as well as equipment manufacturers and consultants. The Task Force reviewed the proposal, discussed the proposal with representatives of Fleet Call and other users of 800 MHz spectrum, researched the availability of frequencies and investigated means by which the proposal can be implemented in the most expeditious manner. The following Comments represent the results of this significant effort.

II. COMMENTS

A. The Innovator Block Proposal

NABER supports the adoption of a form of the Innovator Block concept. Fleet Call's proposal represents an "innovative" idea that should significantly help the private radio industry move into the next phase of implementation of new technology. The only means by which 800 MHz spectrum in urban areas can be converted to digital or any other highly efficient technology in a cost effective manner is to be able to offer wide-area service to

³Petition at 7.

⁴Petition at 30.

customers. The implementation of digital systems in the urban area coupled with the expansion of such system over a wide area of coverage should encourage users to convert to the more efficient technology, starting a "snowball" effect of lower consumer costs as more equipment is brought to the marketplace.

The Commission has seen that the inability of SMR Systems to offer wide-area service has severely hampered the implementation of new technology. Specifically, at 900 MHz, the issuance of licenses only within the Top 50 "DFAs" has prevented SMR operators from being able to offer wide-area service, resulting in slower than anticipated loading on 900 SMR Systems with 12.5 kHz bandwidth technology.⁵ The Commission should take steps to encourage the conversion of 800 MHz systems to more efficient technology in an expeditious manner. NABER believes that the Innovator Block proposal should be one of a series of steps to encourage this transition.

Although NABER supports the proposal, NABER firmly believes that the proposal must be implemented in a manner that will not disrupt the orderly transition to spectrum efficient technology by operators in the urban areas adjacent to the "Innovator MSAs". In this regard, frequencies which are licensed to operators in a nearby market which are in the process of preparing for the implementation of frequency reuse systems must not be adversely

⁵The Commission is currently considering in PR Docket No. 92-17 extending the loading deadline for 900 MHz SMR Systems in recognition of the importance of wide-area systems to the growth and loading of such systems.

impacted by significant blocks of short-spaced frequencies being held in limbo for a number of years while this proceeding is completed. In addition, any proposal adopted must provide for the continued availability of spectrum for non-SMR users in growing markets.

B. Implementation Of Innovator Blocks

1. Auctions For Currently Allocated Spectrum Is Unacceptable

While NABER supports the concept of Innovator Blocks, NABER is adamantly opposed to the auctioning of spectrum which has already been allocated to the private services. It is NABER's view that establishment of digital technology in the secondary markets which this proceeding concerns will not be accomplished on the scale envisioned by Fleet Call if an auction proceeding is used. The introduction of auctions in markets will delay the allocation process and development of digital systems. First, there is a need for congressional action to authorize such action by the Commission. Second, the adoption of auction rules by the Commission will needlessly delay the assignment process. Third, the rural nature of the markets makes it uncertain whether or not sufficient financial interest would be generated and whether such an investment would be made to develop the markets, e.g. will there be a minimum bid requirement? How will such minimums be established? Fourth, to the extent "Innovator Blocks" should be allocated there are alternate means available to reduce speculation than the need to resort to auctions. Fifth, NABER is opposed to any auction proposal which singles out the private radio service.

While NABER is sensitive to the concerns expressed by Fleet Call that the implementation of Innovator Blocks may cause another "application mill war", NABER believes that an application procedure can be established to limit such "private auctions". Thus, adoption of the assignment mechanisms suggested by NABER below should help to obviate the need for auction. This will speed establishment of systems as the Commission will not need to take the time necessary to obtain auction authority from Congress and conduct a rulemaking proceeding concerning implementation of auctions.

2. Number Of Channels Assigned To An Innovator Block

As noted previously, NABER believes that it is important that the Commission ensure that spectrum remains available in each Innovator MSA for other users. However, the number of channels assigned to the Innovator must be sufficient to permit a frequency reuse pattern sufficient to cover the market and have enough capacity for reasonable market penetration. Based upon its consultations with equipment manufacturers and consultants, it is NABER's belief that in the secondary markets which are being considered in this proceeding twenty-one (21) channels is the minimum allocation necessary to achieve this frequency reuse and market penetration, with forty-two (42) channels being the necessary number of frequencies to provide reuse in those markets. Therefore, NABER recommends that the Commission allocate a maximum

of forty-two (42) channels to the Innovator in order to ensure that spectrum remains available to other users.⁶

3. Frequency Availability

a. MSAs Within Waiting List Areas

If the assignment of Innovator Block frequencies is of any value, the frequencies assigned must be useable in the MSA as proposed. Fleet Call's request would require the Innovator to "build-out" at least 75% of the MSA or the MSA population. Therefore, the channels assigned to the Innovator must be useable throughout the MSA. On this basis, NABER reviewed the frequencies which Fleet Call indicated were available in its Petition. NABER's review focused on the MSAs closest to major urban areas.

Fleet Call's Petition indicates at footnote 13 that Fleet Call reviewed the availability of frequencies which were clear for 55 miles. However, to the extent that a listed frequency is only clear for 55 miles at the particular geographic coordinate reviewed by Fleet Call, the frequency would not be useable for the wide-area system envisioned by Fleet Call as the frequency could not be used at any point other than the specific geographic point

⁶The forty-two (42) channel maximum is also necessary as the geographic center of some of the MSAs listed in Fleet Call's proposal are less than fifty (50) miles apart. Therefore, the same frequencies could not be assigned to Innovators in both markets. Allocation of blocks greater than 42 would assign every channel available in both areas. In addition, to the extent that the Innovator needs additional channels because of the particular geographic or topographic nature of the market, the Innovator should be permitted to license additional spectrum in the same manner as any other SMR applicant.

reviewed. Therefore, the 55 mile clear frequency would not be suitable for an Innovator Block.

NABER's review of the availability of spectrum in the MSA's listed by Fleet Call shows that in the approximately 33 MSAs which are within Waiting List Areas, the spectrum cited by Fleet Call as available was primarily only available on a short-space basis. For example, attached hereto as Exhibit 1 are a series of maps depicting the utilization of frequencies cited by Fleet Call as available for use in Melbourne, Florida. The maps depict existing SMR systems, with a seventy mile circle drawn around each transmitter site. The maps demonstrate that every frequency listed by Fleet Call for Melbourne is short-spaced and not useable for an Innovator Block.⁷ Similar results were achieved at other MSAs within waiting list areas. Therefore, NABER believes that frequencies within Waiting List areas are not suitable for Innovator Blocks and should not be included in this proposal.⁸

⁷In addition, two sets of five frequency blocks 856/860.0625 MHz and 861/865.3875 MHz are totally unusable at the site. The maps were based upon licensed systems, therefore the maps represent applications filed prior to the filing of Fleet Call's Petition.

⁸Maps depicting the 100 Mile Waiting Lists areas and the MSA identified by Fleet Call are attached as Exhibit 2. Some of the geographic coordinates provided by Fleet Call in its Petition are incorrect where a city name is the same as the name of a city in another state. In other words, the coordinates for Springfield, Missouri, Springfield, Massachusetts and Springfield, Illinois are listed in Fleet Call's Petition as the same. However, the available frequencies listed by Fleet Call seem to indicate the available frequencies in the correct market. For purposes of NABER's Comments, the maps and charts utilize an estimate of the location of the geographic coordinates most likely utilized by Fleet Call for its Petition.

The NABER Task Force found that areas within Waiting List Areas where Fleet Call noted available frequencies, such as Melbourne, were generally areas which were just adjacent to a major urban area or nestled in between two large urban areas. Such MSAs are areas where current SMR operators in the adjacent market are already established and in the process of developing plans for conversion of their systems to new technology which will result in the "build-out" of the MSA during its conversion. Thus, assignment of Innovator Block frequencies in areas such as Melbourne will not hasten the development of digital availability in the Melbourne MSA, it will only hinder such development by already existing and established SMR operators.

Based upon its review, it is NABER's recommendation that the Commission limit the Innovator MSAs to areas outside of the 800 MHz Waiting List areas. This will ensure that Innovator Blocks are limited to areas where there is a reasonable belief that an incentive is needed to encourage the build-out of higher technology SMR systems.

b. MSAs Adjacent To Waiting List Areas

NABER was also concerned that the number of frequencies listed by Fleet Call as available for MSAs immediately adjacent to waiting list areas may not be suitable for Innovator Blocks. Therefore, the NABER Task Force reviewed 23 MSAs which are immediately adjacent to waiting list areas and are included in Fleet Call's Petition. Such areas would be included in the modified MSA list suggested by NABER. In order to determine the number of channels

which would be available for Innovator Blocks, NABER estimated that the typical MSA adjacent to a major urban area would be approximately fifteen (15) miles across. Therefore, in order to ensure that a particular frequency was useable throughout the MSA, the frequency would need to be "clear" for approximately 85 to 100 miles from the geographic center of the MSA. NABER then researched the number of SMR Pool channels which are clear on this basis.

NABER's research revealed that the number of SMR Pool channels which would be suitable for an Innovator Block was substantially smaller than the number of channels which Fleet Call indicated were available on a 55 mile basis. For example, although NABER found that areas such as Springfield, Missouri and Birmingham, Mobile and Montgomery, Alabama each had sufficient SMR Pool frequencies to allocate an Innovator Block and still have spectrum remain available, three (3) of the twenty-three (23) MSAs had less than five (5) channels clear, ten (10) of the twenty-three (23) MSAs had fifty (50) or less channels clear and sixteen (16) of the twenty-three (23) MSAs had fewer than seventy (70) channels clear.⁹ In such areas, the lack of clear channels would prohibit the introduction of Innovator Systems and require other trunked SMR applicants to access General Category channels on a trunked basis (as proposed by Fleet Call) on a frequent basis.¹⁰

⁹See Exhibit 3.

¹⁰In addition, some of the frequencies listed by Fleet Call as available in certain MSAs are not assigned to the SMR Pool in Canadian border areas. For example, the following frequencies listed as available by Fleet Call are not assigned to the SMR Pool in Border Region 3: 856/860.1375; 856/860.1625; 856/860.5375;

4. NABER Is Opposed To A "Freeze" As Proposed By Fleet Call

The SMR Council and members were strongly opposed to any freeze as proposed by Fleet Call. Most importantly, a freeze in the markets proposed by Fleet Call would adversely impact existing SMR operators who needed additional channels or who already had their own business plans in place to expand and build out wide area digital systems. Opposition to Fleet Call's freeze was strongest in the MSAs and in areas within current wait listed areas. Further, NABER recognized the difficulty in having the Commission attempt to delineate between a system established pursuant to a management agreement to be used in an existing operator's system, or purely a first come first served application filed by a "speculator" under current permitted Commission rules.

5. Innovator Blocks Using General Category Frequencies

NABER's research caused NABER to be concerned as to whether Innovator Blocks could be implemented in areas adjacent to urban areas. As a result, NABER researched General Category frequencies to determine their availability for Innovator Blocks.

NABER discovered that the General Category frequencies are generally more abundant with less frequency reuse than SMR Pool channels. For example, in Springfield, Illinois, where there are

856/860.5625;	856/860.5875;	856/860.6125;	856/860.6375;
856/860.6625;	856/860.6875;	861/865.0375;	861/865.0625;
861/865.0875;	861/865.1125;	861/865.2125;	861/865.2625;
861/865.2875;	861/865.3125;	861/865.3375;	861/865.3625;
861/865.3875;	861/865.4125.	Markets listed in Fleet Call's	

Petition which are in border areas (and consequently many of the listed frequencies would not be available) include Syracuse and Utica, New York, Flint, Lansing, Saginaw, and Jackson, Michigan and Toledo, Youngstown and Canton, Ohio.

no SMR Pool frequencies clear for 100 miles, there are 129 of the 150 General Category frequencies clear for 100 miles. In Asheville, North Carolina, where 21 of 270 SMR Pool channels are clear for 100 miles, 119 of 150 General Category channels are clear for 100 miles.¹¹ Even more General Category frequencies are clear on the 55 mile basis used by Fleet Call.¹²

Because the General Category frequencies are abundant and clear on a wide-area basis, NABER requests that the Commission make available 42 General Category frequencies for an Innovator Block.¹³

6. Advantages Of General Category Innovator Blocks

In addition to the wider availability of the General Category channels, there are other distinct advantages to using General Category channels for the Innovator Blocks, rather than SMR Pool channels.

a. Speculation By Non-Innovators

One of the concerns expressed by Fleet Call at page 21 of its Petition is the ability of "speculators" to "undercut" the purpose of the innovator block concept. This could occur by an applicant with no real intention of constructing a system obtaining a license for five "core" frequencies in a targeted MSA, and later selling the authorization to the Innovator.

¹¹See Exhibit 3.

¹²See Exhibit 4.

¹³For border areas, there are no General Category channels assigned. However, the border areas outside of the Waiting List areas should have sufficient SMR Pool channels available for Innovator Blocks as such areas in the border regions tend to be in very rural areas.

NABER's General Category proposal should limit the ability for speculation without the need for implementation of a "freeze". First, under current rules a speculator who tried to could only license one frequency at a time as a conventional SMR. Second, the system would have to be constructed within a shorter time period (eight months). Third, the system would need to be fully loaded within the eight month period in order to obtain exclusivity. Without such exclusivity, the channel would be of little value to the speculator since it could be shared by other licensees.

Finally, since the frequencies are coordinated, the frequency advisory committee could assign one of the other numerous General Category frequencies which are available in the area. For example, in Corpus Christi, Texas, the frequency coordinator would need to issue frequency recommendations for 173 General Category, Business and Industrial Pool frequencies, not counting available SMR Pool channels, before the 42 channel Innovator Block in the General Category Channels could be assigned. Thus, there is limited ability for speculation to disrupt the Innovator Block. As a result, there is no need for auctioning the Innovator Blocks or in adopting a freeze.

b. Continued Availability Of Channels For User Systems

As discussed previously, it is important that spectrum remain available for large, individual user systems (including oil companies, trucking companies, utilities and public safety entities). First, it should be noted that every user applicant has access to five pools of channels (General Category, Business Pool,

Industrial/Land Transportation Pool, SMR Pool and Public Safety Pool) on a primary basis or through interpool sharing when channels in the primary pool are exhausted. Thus, in the markets outside of waitlist areas, there remains a significant resource of available frequencies for such entities.

While at first blush the use of General Category frequencies for Innovator Blocks would seem to reduce in a substantial fashion the number of frequencies available for user systems, in fact its impact is not significant and there is left a significant availability of unused spectrum for users. The following represents three (3) examples of the impact of the General Category proposal in MSAs adjoining major urban areas with Waiting Lists.

In each case, it is assumed that 42 channels are made available for an Innovator Block, 15 trunked SMR applicants have filed applications and been granted licenses for new systems,¹⁴ and an oil company is now filing an application for a new system. The figures are derived from the chart attached hereto as Exhibit 3.

Huntsville, Alabama

Under NABER's proposal, 42 of the 136 General Category channels would be assigned to the Innovator, leaving 94 General Category frequencies. Thirteen of the fifteen (15) trunked SMR applicants would be assigned all sixty-four (64) SMR Pool frequencies, with the remaining applicants being placed on the

¹⁴Fifteen (15) applications for new trunked SMR systems over a two year period of time would not be unusual in an MSA adjoining a Waiting List area as such areas continue to grow.

Waiting List for the area.¹⁵ In this case, the oil company would have 138 frequencies available for its use.

Wilmington, North Carolina

Under NABER's proposal, 42 of the 143 General Category channels would be assigned to the Innovator, leaving 101 General Category frequencies. All fifteen (15) trunked SMR applicants would be assigned seventy-five (75) SMR Pool frequencies, leaving seventeen (17) channels available in the Pool. In this case, the oil company would have 200 frequencies (which would include the 17 SMR Pool channels) available for its use.

Louisville, Kentucky

Under NABER's proposal, 42 of the 115 General Category channels would be assigned to the Innovator, leaving 73 General Category frequencies. Four (4) trunked SMR applicants would be assigned the twenty (20) SMR Pool frequencies, with the remaining eleven (11) applicants being placed on the Waiting List. In this case, the oil company would have 115 frequencies available for its use.

In every case, the number of available channels for the hypothetical oil company does not significantly diminish through the use of General Category frequencies. Thus, NABER believes that

¹⁵The remaining applicants would also have the option of applying instead for conventional authorizations, but would only be assigned a total of two (2) channels.

adoption of its proposal will ensure the continued availability of spectrum for such individual users.^{16 17}

7. Assignment Mechanism

As discussed previously, NABER believes that use of the General Category frequencies will significantly diminish the opportunity for speculation to disrupt the Innovator Plan. Therefore, there is no need for auctions or a freeze. Rather, NABER proposes an assignment mechanism similar to that used for the 220 MHz nationwide commercial frequencies. Specifically, an applicant would apply for an Innovator MSA and would pay a fee based upon the number of channels requested. Further, the applicant should also pay a fee based upon the number of transmitter sites which could normally be expected to be necessary to "build-out" the typical MSA of the size discussed in this proceeding. NABER believes that a minimum of five (5) transmitter sites would be necessary for this purpose. Therefore, the application fee would be \$35.00 multiplied by the number of

¹⁶If the Commission should elect to utilize SMR Pool frequencies, NABER requests that the Commission further limit the Innovator MSAs to the MSAs that are ~~entirely~~ outside of a Waiting List area, instead of only the geographic center being outside of the Waiting List area. This will provide some additional assurance that the Innovator Blocks do not inhibit the ability of operators in the major urban areas from being able to develop wide-area systems.

¹⁷If the conventional General Category Channels are used, there may also be a need for the Commission to recognize that certain channels are being used on a regional or substantial basis by certain large users with recognized business needs and plans to use such frequencies nationwide. Thus certain General Category Channels may need to be excluded in determining which 42 channels should be part of the Innovator Block.

frequencies (42) and the number of transmitter sites (5), which would require an application fee of \$7,350.00.

Given the number of MSAs to be assigned Innovator Blocks (approximately 150) plus the number of RSAs for which applications could be filed, it would seem unlikely that many applicants would spend more than \$1,000,000 on applications fees without the intention of constructing the system. While some speculation could occur with applications on a local basis, with many applicants applying in a particularly valuable MSA (which seems unlikely because each MSA would be 100 miles from a Waiting List area), it would seem unlikely that many entities would make an investment of \$7,350.00 for such an opportunity.

8. Technology Requirements And System Compatibility

NABER agrees with Fleet Call that the Commission should require the Innovator to employ a more spectrum efficient technology. However, NABER does not believe that the Commission should require a particular type of technology to be implemented by the Innovator. While Fleet Call intends to employ a digital reuse technology that will increase spectrum capacity at least six times, Fleet Call's technology solution for major urban areas may not be the best solution for smaller areas. Further, an Innovator may wish to be compatible with a large operator in an adjacent large metropolitan area which has selected another technology. NABER believes that such decisions should be left to the marketplace to decide, and NABER recommends that the Commission

only require the implementation of a technology more efficient than that currently employed at 800 MHz.

Similarly, it would be difficult for the Commission to mandate that the Innovator's system be compatible with a system in an adjoining market. Since there are likely to be several operators in such areas with several different technologies, it would not seem appropriate for the Commission to mandate compatibility with one type of system. Further, an Innovator may be surrounded by several MSAs with operators utilizing differing types of equipment. Compatibility with an operator in one market may preclude compatibility with the only operator in another market.

NABER believes that equipment/technology and compatibility decisions are best left to the marketplace and NABER suggests that the Commission only mandate a technology more efficient than that currently in use.¹⁸

9. Conversion Of Existing Operations To Higher Technology In Non-Innovator Areas

SMR Operators in the largest urban areas have a significant incentive to convert their systems to higher technology because most systems lack sufficient capacity for additional expansion. Through recognition of "aggregate loading" the Commission has granted construction waivers and permitted frequency reuse systems

¹⁸In this regard, compatibility of equipment, and the ability of users to roam from system to system, will be highly dependent on each manufacturer's cooperation in setting equipment standards for digital technology. With equipment standards, the critical mass of radios in the marketplace to encourage general acceptance of the technology and achievement of Fleet Call's vision will be more readily obtained.